



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,753	08/25/2003	Hirokazu Kameyama	Q77095	1291

23373 7590 03/20/2007
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

SMITH, JEFFREY S

ART UNIT	PAPER NUMBER
----------	--------------

2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/646,753

Applicant(s)

KAMEYAMA ET AL.

Examiner

Jeffrey S. Smith

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-94 is/are pending in the application.
- 4a) Of the above claim(s) 1-85 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 86-94 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date Aug 2003
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Requirement for Information

1. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

In response to this requirement, please state whether any search of prior art was performed. If a search was performed, please state the citation for each prior art collection searched. If any art retrieved from the search was considered material to demonstrating the knowledge of a person having ordinary skill in the art to the disclosed video image synthesis, please provide the citation for each piece of art considered and a copy of the art.

For example, if the results of a prior art search were used as a basis for a rejection in one of the corresponding foreign applications, please submit a copy of the rejection. In particular, if a rejection based on prior art has been made to Japanese Appl. No. 2002-185874, please submit a copy of the rejection. If another foreign filed application that claims priority to 2002-185874 has received a rejection, please submit a copy of the rejection.

This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

Election/Restrictions

2. Applicant's election without traverse of Species VIII in the reply filed on February 28, 2007 is acknowledged. Species VIII includes independent claims 86, 89, and 92. Species IX includes dependent claims 87-88, 90-91 and 93-94. Therefore, Species VIII and IX will be examined on the merits. Claims 86-94 correspond to claims 1-9 filed in Japanese Appl. No. 2002-185874.

Applicant asserts that claims 89-94 are generic to each of the species I through X. This assertion is incorrect because independent claim 89 contains elements that are not found in the other claims. For example, claim 89 recites "similarity computation means for computing a similarity between said desired frame and at least one frame which is temporally before and after said desired frame," which is not present in the other claims. Therefore, claims 89-94 cannot be generic to all claims 1-94.

Applicant further asserts that claims 49-75 should be included in Species VIII. However, these claims cannot be included in Species VIII because the "similarity computation means" is not present in claims 49-75. These claims further cannot be included in Species VIII because claims 49-75 contain elements that are not shown in Figure 32. For example, claim 51 recites "correspondent relationship acquisition means" which is not shown in Fig. 32, but is instead shown in other figures. Therefore, claims 49-75 cannot be included in Species VIII.

Species VIII includes independent claims 89 and 92. In addition, claim 86 is a method claim that performs the functions of the device shown in Fig. 32 and

Art Unit: 2624

is therefore included in Species VIII. Species IX includes claims 87-88, 90-91, and 93-94, which will be examined along with the claims of Species VIII. Claims 1-85 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Elected claims 86-94 are examined on the merits.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority based on five applications filed in Japan in August and September of 2002. However, applicant has not claimed priority to Japanese Application Number 2002-185874 which provides support for claims 86-94. Therefore, claims 86-94 have a filing date of August 25, 2003 with no claim to an earlier filing date.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Claims 86, 89 and 92 each recite "at least one frame which is temporally before and after said desired frame." Figures 33 and 37 show a desired frame Fr1 with arrows pointing to other frames Fr2 and Fr3, however, the temporal relationship of the desired frame to the other frames is not shown. In fact, Fr1 appears to be earlier than Fr2 and Fr3, which is inconsistent with the claims and with the description in the specification such as para. 457 for example. The temporal relationship must be clearly identified and shown. Therefore, "at least one frame which is temporally

Art Unit: 2624

before and after said desired frame” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

5. The drawings are objected to because in Figures 32 and 36 “sampling means” is misspelled. In step 141 of figure 38, “sampling means” should be “sampling” because “sampling means” is not a method step.

6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

8. The disclosure is objected to because of the following informalities. Many sentences begin with the word "And" which is grammatically incorrect. The word "And" must be deleted from the beginning of sentences. For example, in para. 457, "And frames Fr_2 and Fr_3 are weighted and added to frame Fr_1 , whereby a processed frame F_G is obtained" should be "Frames Fr_2 and Fr_3 are weighted and added to frame Fr_1 , whereby a processed frame F_G is obtained." This is an example, similar occurrences that need to be corrected are found in other paragraphs, such as 464 and 465 for example.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 86-94 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 86, 89 and 92 each recite "at least one frame which is temporally before and after said desired frame." However, one frame cannot be both before and after the desired frame, it can only be before or after.

Claims 86, 89 and 92 each recite "a weighting coefficient that becomes greater if said similarity becomes greater." Once the similarity between two frames is computed, the similarity does not become greater. The similarity between two frames is a static number that does not change. In other words, the at least one frame does not change to become more similar to the desired frame. Therefore, the weighting coefficient is a static number that cannot become greater. Dependent claims 87-88, 90-91 and 93-94 have similar problems.

Claim 87 recites "said desired frame is partitioned into a plurality of areas" and claim 88 recites "said desired frame is partitioned into a plurality of subject areas that are included in said desired frame." The distinction between a "plurality of areas" and a "plurality of subject areas" as recited in claims 87 and 88 is not defined. In other words, a "plurality of areas" of a frame includes a "a plurality of subject areas." This means that "a plurality of areas" of a frame is a "plurality of subject areas," therefore claim 88 contains the same limitations as claim 87, and is identical to claim 87. Claim 90 is also identical to claim 91, and claim 93 is identical to claim 94.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 2624

12. Claims 92-94 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims recite a program per se, which is non-statutory subject matter.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 86-94 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Unexamined Patent Publication No. 2000-354244 by Nobutaka ("Nobutaka").

For claims 86, 89 and 92, Nobutaka discloses computing a similarity between said desired frame and at least one frame which is temporally before and after said desired frame (which is performed by element 102 of figures 1 and 2); and acquiring said processed frame by obtaining a weighting coefficient that becomes greater if said similarity becomes greater (which is performed by elements 202, 205 and 206 of figure 2, see also the discussion of similarity on page 7), then weighting said at least one frame with said weighting coefficient, and synthesizing said weighted frame and said desired frame (which is performed by element 106 of figure 1 which is a synthesis means that synthesizes the desired frame and the weighted frame).

Art Unit: 2624

For claims 87, 90 and 93, Nobutaka discloses said desired frame is partitioned into a plurality of areas (see figures 6a, 6b and 13 for example); said similarity is computed for each of corresponding areas in said at least one frame which correspond to said plurality of areas (see discussion of 102); and said processed frame is acquired by obtaining weighting coefficients that become greater if said similarity becomes greater, then weighting said corresponding areas of said at least one frame with said weighting coefficients, and synthesizing said weighted areas and said plurality of areas (see discussion of 106).

For claims 88, 91 and 94 Nobutaka discloses said desired frame is partitioned into a plurality of subject areas that are included in said desired frame (see figures 6a, 6b and 13 for example); said similarity is computed for each of corresponding subject areas in said at least one frame which correspond to said plurality of subject areas; and said processed frame is acquired by obtaining weighting coefficients that become greater if said similarity becomes greater, then weighting said corresponding subject areas of said at least one frame with said weighting coefficients, and synthesizing said weighted subject areas and said plurality of subject areas (see element 106).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Number 5,696,848 issued to Patti et al. discloses a system for creating a high resolution image from low resolution images.

Art Unit: 2624

U.S. Patent Number 6,466,618 issued to Messing et al. discloses a method for improving resolution from multiple images.

U.S. Patent Number 6,023,535 issued to Aoki discloses a method for reproducing a high resolution image from low resolution images.

U.S. Patent Number 6,304,682 issued to Patti discloses a method for enhancing a still image from compressed video data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey S. Smith whose telephone number is 571 270-1235. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSS

March 12, 2007



JINGGE WU
SUPERVISOR/PATENT EXAMINER